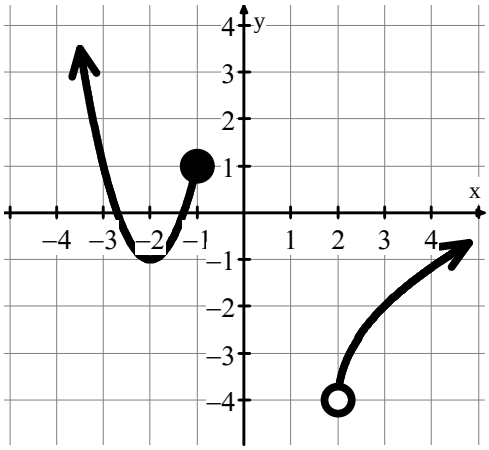
3.2 Corrective Assignment – Extrema & Function Analysis Name: _____

Pre-Calculus

Using the graph and/or the function's equation, find all of the following. Use Interval Notation when describing intervals. Sketch the graph if it is not given.

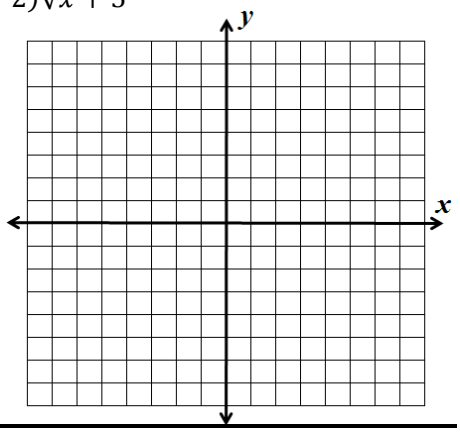
Domain:	Absolute max/min value(s):
Local max/min value(s) that are NOT absolute:	
Increasing:	Decreasing:
Left End-behavior: $\lim_{x\to-\infty} f(x) =$	Right End-behavior: $\lim_{x\to\infty} f(x) =$

1.



Domain:	Absolute max/min value(s):
Local max/min value(s) that are NOT absolute:	
Increasing:	Decreasing:
Left End-behavior: $\lim_{x\to-\infty} f(x) =$	Right End-behavior: $\lim_{x\to\infty} f(x) =$

2. $f(x) = \frac{1}{2}(x^2 - 2)\sqrt{x+5}$



Domain:	Absolute max/min value(s):
Local max/min value(s) that are NOT absolute:	
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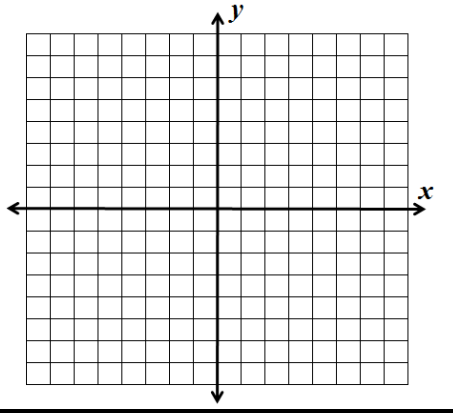
Left End-behavior: $\lim_{x\to-\infty} f(x) =$	Right End-behavior: $\lim_{x\to\infty} f(x) =$

3. $g(x) = \sqrt{36 - x^2} - 2$



ANSWERS:

1. Domain: $(-\infty, -1] \cup (2, \infty)$; Abs max/min value: NONE; Rel **MIN** value -1, Rel **MAX** value 1; Inc: $(-2, -1) \cup (2, \infty)$; Dec: $(-\infty, -2)$; Left: ∞ ; Right: ∞
2. Domain: $[-5, \infty)$; Abs **MIN** value: -2.247; Rel **MIN** value 0, Rel **MAX** value 7.025; Inc: $(-5, -4.098) \cup (0.097, \infty)$; Dec: $(-4.098, 0.097)$; Left: NONE; Right: ∞
3. Domain: $[-6,6]$; Abs **MIN** value: -2, Abs **MAX** value: 4; No other Local Extrema; Inc: $(-6,0)$; Dec: $(0,6)$; Left: NONE; Right: NONE